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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,161	09/09/2003	Jeyhan Karaoguz	14167US02	5714

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EXAMINER	
RUSSELL, WANDA Z	

ART UNIT	PAPER NUMBER
2462	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,161	KARAOGUZ ET AL.	
	Examiner	Art Unit	
	WANDA Z. RUSSELL	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *29 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-42 are objected to because of the following informalities: Applicant sometimes uses "the", but sometimes uses "said" for antecedent terms. They need to be consistent. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman et al. (U.S. Patent 6,643,292 B2, hereafter Chapman), in view of Beshai et al. (Pub No. US 20020131363, hereinafter Beshai), and Regan et al. (U.S. Patent 6578086 B1, hereinafter Regan).

For **claims 1, 11, 21, 31, and 41**, Chapman teaches a method, a machine-readable storage (see processor and protocols in Fig. 8. It means that machine-readable storage is used), a system (see Fig. 8) for providing enhanced connectivity (packet data transport mechanism, see title) in multi-protocol network (TCP/IP, see Fig. 8, and DHCP, see col. 5, line 17, and RSVP, see col. 6, line 50. All are used for this

system. In addition, it is known in the art that based on IEEE 802.11 standard, measurement protocol and TPC protocol can be used), comprising:

aggregating messages of each communication channel from a physical layer (see Encapsulation Module 84 in Fig. 8; In Internet terminology, aggregating traffic streams by encapsulating them into a single IP stream is often called tunneling, see col. 2, lines 55-57) of each communication channel (see three customer equipments to input module in Fig. 8. Each customer equipment occupies a channel) associated with each of a plurality of protocols (TCP/IP, see Fig. 8, and DHCP, see col. 5, line 17, and RSVP, see col. 6, line 50) in a single multi-protocol layer of the multi-protocol network (see 84 in Fig. 8, and It is commonly understood in the field of the present invention that a layer under the networking layer is called "transport" layer ... This is in contrast to the layered model of the OSI, see col. 2, lines 33-35 and lines 33-42).

However, Chapman fails to specifically teach the connectivity in a multi-band.

Beshai teaches the connectivity in a multi-band (multi-band network, see [0100]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chapman with Beshai to obtain the invention as specified, for varieties of users and services.

Further, Chapman in view of Beshai does not teach identifying an optimal communication path from among said communication channel based on said single multi-protocol; and establishing a communication session using said identified optimal communication path.

Regan teaches

identifying an optimal communication path from among said communication channel based on said aggregated messages in said single multi-band, multi-protocol layer (identify the optimal network routing paths at the link layer, see col. 2, lines 5-6. As shown above, the link layer has aggregated messages in the single multi-band, multi-protocol layer); and

establishing a communication session using said identified optimal communication path (see 202/204 with TX in Fig. 2. It is known in the art that once the optimal communication path is established, it will be used for establishing a communication session. Refer to cited Melick reference as evidence, see Abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chapman with Beshai and Regan to obtain the invention as specified, for efficient transmission of the packets/sessions to save time and cost through optimum path.

For **claims 2, 12, 22, 32, and 42**, Chapman with Beshai and Regan teaches everything claimed as applied above including comprising determining based on said aggregated messages, whether at least one of said communication channels, said communication bands, and a combination of said communication channels and said communication bands provides said optimal communication path for said communication session (see 1, 11, 21, 31, 41).

For **claims 3, 13, 23, and 33**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 2, 11, 12, 21, 22, 31, 32). In addition, Chapman teaches comprising selecting at least one of said communication and

communication bands, and a combination of said communication channels and said communication bands for providing said communication session (see Customer equipments, Input module 80, and Tx module 92 in Fig. 8).

For **claims 4, 14, 24, and 34**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 2, 3, 11, 12, 13, 21, 22, 23, 31, 32, 33). In addition, Chapman teaches comprising locating said single multi-protocol as a sublayer within a data link layer (It is commonly understood in the field of the present invention that a layer under the networking layer is called "transport" layer ... This is in contrast to the layered model of the OSI ... The data link layer provides similar functionalities to those of the transport layer of the present description, see col. 2, lines 33-42. It can be seen that this "transport" layer is a sublayer within a data link layer).

For **claims 5, 15, 25, and 35**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 2, 3, 11, 12, 13, 21, 22, 23, 31, 32, 33). In addition, Chapman teaches comprising interfacing said single multi-protocol layer above a MAC layer, said MAC layer interfaced with said physical layer that is located below said MAC layer (The "transport" layer defined by Chapman is within a data link layer as described in claim 1. Note that Applicant's Fig. 1a is a block diagram of the OSI model, see Applicant's specification, P.2, lines 5-6, and OSI model is well-known in the art. Therefore it can be seen that the data link layer is located above MAC layer, and the physical layer is located below the MAC layer).

For **claims 6, 16, 26, and 36**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 2, 3, 4, 11, 12, 13, 14, 21, 22, 23, 24, 31,

32, 33, 34). In addition, Chapman teaches wherein said single multi-protocol layer is a super channel sublayer, said super channel sublayer being said sublayer of said data link layer (It is commonly understood in the field of the present invention that a layer under the networking layer is called "transport" layer ... This is in contrast to the layered model of the OSI ... The data link layer provides similar functionalities to those of the transport layer of the present description, see col. 2, lines 33-42. It can be seen that this "transport" layer, called super layer by the Applicant, is a sublayer within a data link layer).

For **claims 7, 17, 27, and 37**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 11, 21, 31, 41). In addition, Chapman teaches comprising monitoring at least a portion of said aggregated messages in said single multi-protocol layer by at least one of a network management process (network management, see col. 6, line 10), a bandwidth management process (providing services with bandwidth guarantees, see col. 4, line 64), a load balancing process (TCP is also inherently provides for resequencing of out-of-order packets which can occur when switching nodes spread load over multiple links, see col. 2, lines 65-67), a session control and a QoS management process (QoS management, see col. 8, line 51).

For **claims 8, 18, 28, and 38**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 7, 11, 17, 21, 27, 31, 37). In addition, Chapman teaches comprising interfacing at least one of said network management process, bandwidth management process, load balancing process, session control process and QoS management process with said super channel (It should be noted that

the transport network will be much less subject to change than the public internet making it simpler to introduce quality of service features, see col. 6, lines 54-57).

For **claims 9, 19, 29, and 39**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 7, 8, 11, 17, 18, 21, 27, 28, 31, 37, 38). In addition, Chapman teaches comprising extracting channel specific data from said single multi-protocol layer by at least one of said network management process, bandwidth management process, load balancing process, session control process and QoS management process (An encapsulation module 84 encapsulates those digital data flows so identified in a series of TCP segments and with a help of an IP header module 86 attaches to each transport IP packet a transport IP header, containing the address of the destination transport access point, see col. 7, lines 43-47).

For **claims 10, 20, 30, and 40**, Chapman with Beshai and Regan teaches everything claimed as applied above (see 1, 7, 8, 9, 11, 17, 18, 19, 21, 27, 28, 29, 31, 37, 38, 39). In addition, Chapman teaches comprising sharing channel information acquired by each of said network management process, bandwidth management process, load balancing process, session control process and QoS management process among one or more of said network management process, bandwidth management process, load balancing process, session control process and QoS management process (It is another object of the invention to provide a technique of one or more connections dynamically sharing the bandwidth of a pipe created between two transport access points, see col. 3, lines 6-8).

Citation of Pertinent Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Melick et al. (Pub No. US 20060165015) teach transmits the data over the best path, see Abstract.

Response to Arguments

5. Applicant's arguments filed 10/19/2009 have been fully considered but are not persuasive.

6. For claim 1, Applicant argues that there is no such support in Chapman that the input flows are "multi-band" communications.

This issue is moot in view of the new ground(s) of rejection.

Beshai teaches the connectivity in a multi-band (multi-band network, see [0100]).

7. Still for claim 1, Applicant argues that Chapman does not disclose or suggest at least the limitation of "identifying an optimal communication path from among said communication band and said communication channel based on said aggregated messages in said single multi-protocol layer,"

This issue is moot in view of the new ground(s) of rejection.

Regan teaches identifying an optimal communication path from among said communication channel based on said aggregated messages in said single multi-band, multi-protocol layer (identify the optimal network routing paths at the link layer, see col.

2, lines 5-6. As shown above, the link layer has aggregated messages in the single multi-band, multi-protocol layer).

8. Still for claim 1, Applicant argues that Chapman does not disclose or suggest at least the limitation of "establishing a communication session using said identified optimal communication path."

This issue is moot in view of the new ground(s) of rejection.

Regan teaches establishing a communication session using said identified optimal communication path (see 202/204 with TX in Fig. 2. It is known in the art that once the optimal communication path is established, it will be used for establishing a communication session. Refer to cited Melick reference as evidence, see Abstract).

9. Other independent claims have the same issues as discussed above.

10. Rejections of dependent claims remain effective. See details above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WZR/Wanda Z Russell/
Examiner, Art Unit 2416

/Donald L Mills/
Primary Examiner, Art Unit 2462